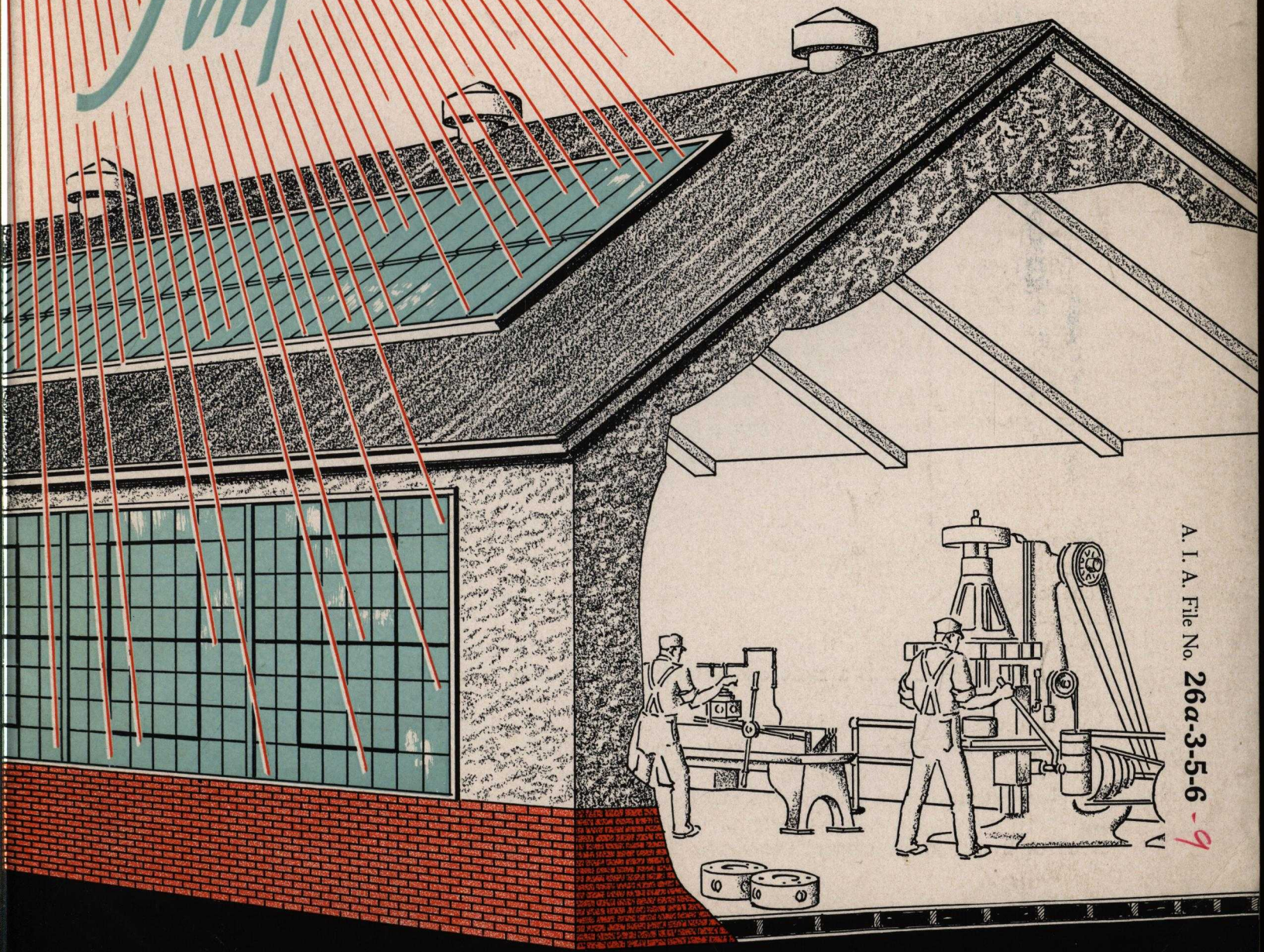
COOLITE

Improved

HEAT ABSORBING GLASS



A. I. A. File No. 26a-3-5-6 - 9

COOLITE GLASS

The purpose of a good heat absorbing glass is to reduce solar heat radiation to a minimum without sacrificing light, and the glass to be practical and efficient must be of a formula not affected by sudden changes in temperature. It should also be of a color which will minimize glare or eyestrain.

COOLITE GLASS—Is scientifically designed for a definite purpose and is made of a special heat absorbing composition which will withstand sudden temperature changes without cracking from internal stress. It is made only in a greenish blue color sufficient to eliminate the necessity of painting the glass, where light intensity is too severe.

COOLITE GLASS—Is made for use in side wall sash and skylights. In side walls it is sometimes desirable to use 1/8" glass and for this type of installation we manufacture 1/8" Ribbed and Hammered Coolite which has a total light transmission of 73% and total heat transmission of 50½%. For skylights it is desirable to use the 1/4" Coolite Wire Glass, either Ribbed or Hammered, and in some places where Wire Glass is not necessary 1/4" Ribbed or Hammered Coolite may be used. The 1/4" Coolite has a total light transmission of 58% and a total heat transmission of only 27%.

SUMMARY OF ELECTRICAL TESTING LABORATORIES

REPORT NO. 141478

RENDERED TO MISSISSIPPI GLASS COMPANY

TEST: The sample of Coolite glass supplied was polished to a thickness of 6.1 mm. It was then tested for visible transmission with a Marten's polarization photometer. The total heat transmission was measured with a thermocouple in front of which a 2.5 mm. thick BG17 filter was placed. The infra-red transmission was determined by means of a thermocouple in front of which a Corning filter No. 255, 3.5 mm. thick, was placed. The light source used was a tungsten lamp operating at a color temperature of 2910°K.

RESULTS OF TESTS: Table A contains the transmissions of the sample supplied and the computed transmissions for sample of 1/8" and 1/4" thick.

TABLE A

	Transmission		
Region	0.24" thick	0.125" thick 1/8" (computed)	0.25" thick 1/4" (computed)
Visible	0.59	0.73	0.58
Total heat	0.29	0.50_5	0.27
Infra-red	0.11	0.30_5	0.10

COOLITE—affords a more comfortable working area during hot weather.

In order to give some idea of how the temperature within a building may be reduced by the use of Coolite glass, one need only refer to the enclosure test to see what actually takes place with a Coolite installation. Where the glass absorbs 42% of the heat from the sun, the absorbed heat is of course re-radiated, but the greater portion is convected back toward the source where the air circulation is normally more active and the convection more rapid, resulting in a reduced temperature within the working area as compared with ordinary glass.

As this test simulates a roof lighting installation in which ¼" thick glass is standard practice, we have used this thickness for our tests.

SUMMARY OF ELECTRICAL TESTING LABORATORIES

REPORT No. 141813

RENDERED TO MISSISSIPPI GLASS COMPANY

Enclosures were erected on the roof of the laboratory and glass installed in the form of skylights exposed to direct sunlight.

Each unit contained a different type of glass and temperature readings were taken with the sun approaching meridian and at intervals until the sun was well past meridian.

The following table gives the average of all measurements for the three different glasses.

TABLE B

Average Temperature, Degrees Fahrenheit at locations indicated

Location	Glass	Air at center of enclosure	Floor Surface
¼" Clear Glass	126°	134.4°	147.6°
¼" Ribbed Glass	124°	135°	147.6°
¼" Coolite Glass	136.2°	123.7°	127.3°

Outside air temperature in shade averaged 97.6° F.

The above averages show that the Coolite glass is absorbing a considerably larger fraction of the solar radiation than clear or Ribbed glass. This higher absorption is shown by the temperature of the Coolite glass which (*averaged 11.5° F.) hotter than the other glasses*, also *by the lower temperature of the floor* which (*averaged 20.4° F.) lower than under the other glasses* and the *air under Coolite* (*averaged 11° F.) cooler than under the other glasses.*

This is supported by a series of observations where mercury in glass thermometers were used.

The extent to which ordinary glass acts as a "heat trap," permitting the radiant energy (sun's heat rays) to pass into the enclosed space, but holding it there afterward, is strikingly shown by the fact that the inner surface temperature of two ordinary types of glass (*averages 10° F.) cooler* than the air which is imprisoned, while the "Coolite" glass (*averages 12.5° F.) hotter* than the air imprisoned.

After studying the above, if you will picture two buildings, one with ¼" Coolite in the skylights and the other with ordinary glass, you can appreciate working conditions in the building glazed with Coolite will be preferable.

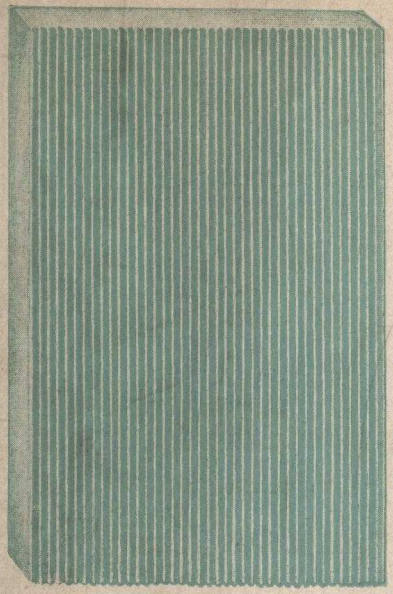
COOLITE GLASS keeps out a large part of the sun's heat rays.

REMEMBER

COOLITE GLASS

Affords ample daylight illumination—58% light transmission for ¼" thick.
Reduces sun's radiant energy —27% heat transmission for ¼" thick.
Can be readily obtained —through any glass jobber.
The cost is not excessively higher than ordinary glass.

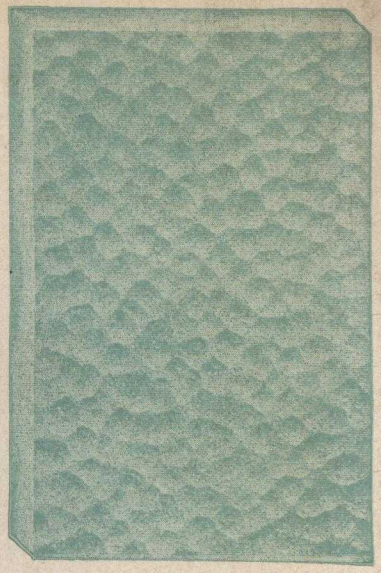
For any special information, write Research Dept., Mississippi Glass Co., New York.



(RIBBED)

COOLITE

HEAT ABSORBING GLASS



(HAMMERED)

SPECIFICATION

Style	Thickness	Maximum Width Ins.	Maximum Length Ins.	Approx. Net. Wt. Lbs. Sq. Ft.
Ribbed Coolite	1/8	48	132	2
Ribbed Coolite	1/4	48	144	3 1/4
Ribbed Coolite Wire Glass.	1/4	48	144	3 1/4
Hammered Coolite . . .	1/8	48	132	2
Hammered Coolite . . .	1/4	48	144	3 1/4
Hammered Coolite Wire Glass	1/4	48	144	3 1/4

Manufactured
by

MISSISSIPPI GLASS CO.

220 FIFTH AVENUE
NEW YORK

110 FERRY STREET
ST. LOUIS, MO.

201 NO. WELLS STREET
CHICAGO, ILL.

FULLERTON
CALIFORNIA

Coolite No. 2—15M-7-30-37

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